

A scheduler for a machine includes a selector and a traverser. The selector selects the traverser and selects policies from a library based on a model of the machine. The traverser looks for a preferred itinerary. The scheduler includes a first module to choose an itinerary, a second module to calculate a combined weight, and logic to repeatedly operate the first and second modules to choose additional itineraries from the group of itineraries and calculate their combined weight until an end condition is reached. The end condition includes one or more of when a calculated combined weight for an itinerary exceeds a predetermined threshold, when a predetermined time has elapsed, when a combined weight for each of a predetermined number of itineraries has been calculated, and when a combined weight for each itinerary in the group of itineraries has been calculated. The first module chooses an itinerary from either a list of all of the itineraries or a sub-set of the itineraries. The second module includes an itinerary validator to compute an itinerary weight for the chosen itinerary for each of the policies and also includes a combiner to combine the computed itinerary weight for each of the policies into a combined weight for the chosen itinerary. The scheduler further includes a third module to choose an itinerary that has a combined weight calculated by the second module that is greater than a combined weight of any other itinerary calculated by the second module.